

# **Gender and Recycling Qualitative Phase Quito, Ecuador**

## **Summary Report 1996**

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## **Introduction**

In 1993, the municipality of Quito initiated a pilot recycling program in several areas in lower-middle and lower class neighborhoods. In 1995, the program was being implemented in eleven neighborhoods covering approximately 4,500 families. Most of them are located in the southern part of the city. Others are nearby satellite communities. The municipality plans to expand coverage to 40,000 families. The program is managed by a specialized municipal enterprise in charge of city cleaning, EMASEO (Empresa Municipal de Aseo).

The pilot recycling program uses neighborhood teams of workers, called “micro-enterprises,” to collect waste. Depending on the size of the area, teams may serve more than one neighborhood. Usually, contiguous pilot program areas are served by the same micro-enterprise. The enterprise is generally composed of a manager, a driver, a bell holder who announces the curbside pickup, and two or three garbage collectors. Neighborhoods with only alleys use small carts.

The program requires participating households to separate solid waste into three categories: organic, recyclable and unusable (bathroom) waste. Each type of waste is picked up curbside on a different day of the week. In some neighborhoods, organic garbage is composted and sold, while in others it is sold the day of collection to middlemen. Unusable waste is loaded on small pick-up trucks and transported to nearby dumpsters, where it is collected by a larger municipal truck and taken to the municipal landfill.

The recycling program sets up waste collection services in areas previously unserved. The recycling program also helps reduce the amount of waste destined for the municipal landfill. The cost to the municipality of transporting waste to its landfill prior to implementation of the recycling program, about \$30/ton, was considered to be too high. The recycling program has the potential to help reduce those costs.

At the same time, the program is meant to provide employment opportunities to local people and generate funds for neighborhood improvement projects. The micro-enterprises are non-profit organizations whose employees are paid by the municipality. Each micro-enterprise contributes the revenue from its sales of recyclable waste products to its own local development fund. The municipality, in turn, matches the funds obtained from the sale of recyclables when the money in the funds is used for small-scale neighborhood development projects.

The recycling program further attempts to contribute to a reduction in the number of scavengers in the city’s landfill, in turn contributing to a reduction in hazards to the scavengers’ health.

## **The Problem**

Recycling levels in the neighborhoods where the pilot program is being implemented are low and have fallen over time. Estimates are that at best only one third of neighborhood residents actively participate in the program. In some neighborhoods, however, the level of household participation may be even lower. The suspension of free garbage bag distribution has generated further resistance among customers. The municipality is interested in launching an educational intervention to promote recycling.

With the concurrence of the USAID Mission, and in conjunction with Corporacion OIKOS, the Environmental Education and Communication Project (GreenCOM) funded a formative study to generate information that would help conceptualize the educational intervention. Specifically, the study focused on: residents' knowledge, beliefs and practices pertaining to garbage separation; and the role that gender played in the recycling process.

The study was conceived in two phases: a qualitative phase and a quantitative phase. This report presents a summary of the findings from the qualitative phase of the study. A more detailed report in Spanish served as the basis for this English summary.<sup>1</sup>

## **Methodology**

Interviews and focus group discussions were conducted with three different types of residents in pilot program neighborhoods: members of neighborhood organizations, micro-enterprise personnel, and individual household members. Men and women were interviewed separately. Household members, or "program participants," were also divided into two other categories: separators and non-separators of the recycling program guidelines for disposing of waste.

## **Results**

The qualitative study indicated that in fact female involvement in program promotion was an important element in getting the pilot program on its feet. Often, men have the more respectable positions in neighborhood committees. However, most of the daily activities of the committees and the institutional relationships between the committees in the municipalities are in the hands of women. No conclusive evidence existed about the role of gender in micro-enterprise management as there were only four micro-enterprises participating in the program. Three of them were managed by women and one was managed by a man. The one managed by a man had been recently organized. Consequently, comparisons between female and male managed micro-enterprises were not possible.

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<sup>1</sup>Copies of this report may be obtained from the GreenCOM Project at the address provided on the inside cover page.

The qualitative study also revealed that there are four major areas of concern into which perceptions about waste separation can be grouped: financial, development related, self-growth and self-image, and time and effort required to separate waste.

Once the response categories were identified, the analysis was done in two steps. First, to distinguish separators from non-separators, and second to distinguish men from women. Two major differences between separators and non-separators were found. On the one hand, separators perceive waste separation to be easy, fast and facilitating waste handling as wet and dry garbage get deposited in separate containers. Non-separators, on the other hand, believe totally the opposite as for them waste separation is hard, time-consuming and a dirty task. Non-separators have the misperception that separation occurs after different waste products have been deposited in one container. For them, separation implies sticking their hands in the garbage to separate recyclables from non-recyclables. In addition, a striking contrast between separators and non-separators is the role attributed to self-image. For separators, waste separation helps them have a positive image before neighbors and family members. For non-separators, on the contrary, waste separation is a demeaning task to be accomplished by scavengers.

The major differences observed between men and women are connected to the following issues: who reaps the benefits of recycling, the self-image that waste separation makes possible, and the health implications of separation. Men believe that participation in the recycling program permits others, not than family members, to obtain the revenue from selling recyclables. The implication is those funds should be collected by the members of households where the waste is generated. Women, on the other hand, believe that recycling will generate funds that can be used in neighborhood development projects and support the program on those grounds. Whereas men believe recycling to be a demeaning task, women generally believe that recycling will develop their image as industrious among neighbors and as responsible family members fulfilling their household duties before their relatives. Men for the most part did not mention the health implications of separating waste. The opposite is true for women. Women refer to the fact that waste separation eliminates vectors and odors and makes their houses look prettier. Women against the program have also mentioned health implications, particularly with respect to bathroom waste. For these women, the program requires them to keep that type of waste too long in the household, a measure believed to be unhealthy. Surprisingly, women also mention topics that are rhetorically associated with recycling: provision of raw materials for industry thus diminishing the demand for imported goods and contributing to national development. Neither of these two issues was suggested by men.

In general, men appear to be more critical of the program than women. However, women that are critical of the program have expressed their opposition for different reasons than men: the need to spend money on plastic bags to dispose of the waste according to program guidelines; the fact that the program establishes guidelines that are perceived as an intrusion in how one manages the household; and the fact that the program makes them collaborate with neighbors that they dislike.

## Recommendations

A list of recommendations derived from the qualitative research are provided below. These will be useful for developing and launching an educational strategy in support of the recycling program in Quito. OIKOS and the municipal government are potential users of the recommendations.

1. Reinforce the concept of usable waste.
2. Modifications to the program planned by the municipality should be discussed with beneficiaries prior to implementation. This will obtain residents' input and will facilitate the adoption of the modifications once introduced, particularly those related to composting.
3. Inform program participants about the use of the profits from the sale of recyclable products and the compost. Further, increase their involvement in deciding how the funds are used.
4. The perception among non-separators that solid waste separation is time-consuming, hard, and dirty may be the result of lack of skills. Demonstrations and hands-on experience can help develop needed skills. Stress the point that the separation must take place as the garbage is generated.
5. Illustrate that cleanliness and disease prevention result in lower medical expenses. This may be a persuasive argument to get participants to buy the bags. Further, the program can be consulted to determine the possibility of accepting garbage in boxes or other types of containers (e.g., burlap sacks).
6. Train micro-enterprise managers and collectors about garbage reuse and recycling so they can relay information to users.
7. Train collectors in customer relations.
8. Develop promotional messages stressing the importance garbage separation and recycling may have personally for participants. Determine which personal impact messages are more persuasive through the quantitative study and/or through concept testing.
9. Examine customer preferences about service regularity, particularly for unusable garbage, and adjust service accordingly.



## I. BACKGROUND

In 1993, the municipality of Quito initiated a pilot recycling program in several areas in lower-middle and lower class neighborhoods. Currently, the program is being implemented in eleven neighborhoods covering approximately 4,500 families. Most of them are located in the southern part of the city. Others are nearby satellite communities. The municipality plans to expand coverage to 40,000 families. The program is managed by a specialized municipal enterprise in charge of city cleaning, EMASEO (Empresa Municipal de Aseo).

The program requires participating households to separate solid waste into three categories: organic, recyclable and unusable (essentially bathroom waste such as used toilet paper). Organic waste is picked up curbside three times per week: Mondays, Wednesdays and Fridays; recyclable waste is picked up on Tuesdays; and unusable waste on Thursdays.

Neighborhood teams of workers, called “micro-enterprises”, collect the garbage. Depending on the size of the area, teams may serve more than one neighborhood. Usually, contiguous pilot program areas are served by the same micro-enterprise. The enterprise is generally composed of a manager, a driver, a bell holder (who announces the curbside pickup), and two or three garbage collectors. Neighborhoods with only alleys use small carts. The term “micro-enterprise” may be a misnomer as most of the employees receive salaries, and no profits are involved. The municipality pays for the micro-enterprise. The driver rents his or her vehicle to the municipality and collects both a salary and truck rental fee. The average monthly cost to EMASEO for each “micro-enterprise” is about US\$480.

In some neighborhoods, organic garbage is composted and sold. If the quality of the compost is improved, it may get a better price. When a warehouse is available, recyclable waste may be stored and then sold in bulk by the micro-enterprise. Otherwise, it is sold the day of collection to middlemen. Unusable waste is loaded on small pick-up trucks and transported to nearby dumpsters, where it is collected by a larger municipal truck and taken to the municipal landfill (Sambiza).

Each micro-enterprise handles the revenue from its sales to create a development fund. The municipality matches the funds obtained from the sale of recyclables when the money is used for small neighborhood development projects. Recently, one neighborhood used this fund to erect street signs.

Citywide, the municipality spends about \$30/ton to transport waste to its landfill. The recycling program, if successful, may help reduce those costs. It can help create neighborhood jobs, rent unused vehicles, and generate profits for neighborhood development. The program will also permit recycling to take place at the source of waste generation, reducing the presence of scavengers at the landfill and the resulting health problems.

The City Council Office promoted the program in neighborhoods by working with existing neighborhood committees. These committees assumed the responsibility for doing a neighborhood census to identify possible participants. These committees also helped identify residents interested in organizing the micro-enterprise and advertised the program characteristics among residents. An agreement was established between EMASEO and the micro-enterprise once formed. Collectors working for the micro-enterprises further advised residents of what was required of them and when and how curbside pick-up would operate. Collectors are in charge of enforcing the program's collection policies. In principle, they are expected to refuse garbage that should be picked up on other days and explain to customers why they are doing so.

Up until June 1995, the program distributed plastic bags to project participants as an incentive to practice garbage separation and recycling. One free plastic bag was distributed per each bag used. In principle, families received five bags per week. The retail value of the bags was about US\$1/month. This represented about a US\$54,000/year activity which is one of the reasons why EMASEO suspended distribution. Participants have reacted negatively to the suspension of the distribution of free plastic bags.

## II. THE STUDY

### **The Problem**

Recycling levels are low and have deteriorated over time. Estimates are that at best only one third of neighborhood residents actively participate in the program. In some neighborhoods, however, the level of household participation may be even lower. The suspension of free garbage bag distribution has generated further resistance among customers. The municipality is interested in launching an educational intervention to promote recycling.

With the concurrence of the USAID Mission, the Environmental Education and Communication Project (GreenCOM) funded a formative study to generate information that would help conceptualize the educational intervention. The study was particularly important because anecdotal evidence suggested that gender played a role in the quality of service provided by the micro-enterprises, which in turn had an impact on program participation at the household level. Specifically, woman-headed neighborhood organizations promoted the pilot program more actively, and it was assumed that woman-managed micro-enterprises showed more commitment to the program. Thus, the study offered the possibility to understand the role that gender played in the process, in addition to generating the information needed to design an educational strategy with client consultation. The Municipality of Quito had contacted Corporación OIKOS requesting their involvement in developing an educational intervention in support of the pilot program. Corporación OIKOS is a for-profit environmental education firm headquartered in Quito. GreenCOM Project decided to help Corporación OIKOS in this undertaking, funding the needed formative research.

### **Objectives of the Study**

- 1) Understand the impact that gender has on program promotion, garbage collection services provided, and garbage separation practices at the household level;
- 2) Identify psycho-social factors that determine garbage separation at the household level;
- 3) Identify knowledge factors that can influence garbage separation practices;
- 4) Identify channels that can be used to implement an educational strategy; and
- 5) Identify the level of satisfaction residents have with the services provided, and identify preferences and suggestions to improve the program.

The emphasis of the study is on garbage separation. That is, separating household waste into the

three categories: organic, recyclable and unusable. Garbage separation is perceived as the first step in the garbage disposal process. This process also includes accumulation, packaging, and transport outside of the household.

The study was designed in two phases. The first phase included a qualitative study. During this phase, data was gathered at three levels: neighborhood organizations, micro-enterprises, and individual households. Data gathering procedures were segmented by gender as men and women were consulted separately. The second phase included a quantitative study based on the results obtained through the first phase.

This summary report presents the methodology used and the major findings of the first, or qualitative, phase of the study.

### III. METHODOLOGY

Four neighborhoods were selected from the total pool of eleven. Selection criteria included socio-economic condition (lower vs. lower-middle class), population density (low vs. high), and relative access to alternative garbage collection systems (low vs. high). Three of the neighborhoods selected, Solanda, Quito Sur, and San Jose Chilibulo, were served by the pilot program as of 1995. At the time the study was conducted, it was expected that Alcantarilla, the fourth neighborhood, would participate in the program in the near future.

Researchers used in-depth interviews and focus groups. In-depth interviews were conducted with micro-enterprise managers. Separate focus groups by gender were held with: (1) neighborhood committee members, (2) garbage collectors, and (3) program participants.

Program participants were divided into two categories: separators and non-separators of the recycling program guidelines for disposing of waste. Garbage collectors identified sets of separators and non-separators in each the three neighborhoods currently in the program. Verification of the classification made by collectors was done by following collectors in their routes to observe the type of garbage left at the curb by program participants.

Once identified, program participants were invited to participate in group discussion sessions dealing with garbage. Meetings had to be postponed at least twice for each group because of low attendance. In one neighborhood, medical visits were exchanged for agreeing to participate in the focus groups. The medical visits took place prior to the focus group discussions. Subsequently, all of the men who had been invited to attend the discussions in that neighborhood sent their sons to “represent” them in the discussions. The discussion of results excludes this group.

Table 1 presents a breakdown of the different focus groups conducted.

**Table 1: Number of Focus Groups Conducted  
by Level of Program Involvement and Gender**

<b>Group</b>	<b>Men</b>	<b>Women</b>
Neighborhood Committee Members	1	1
Garbage Collectors	1	1
Users:		
Separators	1	2
Non Separators	2	2
Expansion area residents	1	1

All individual and group discussions were taped and transcribed. Two researchers conducted thematic content analysis of the transcripts.

The focus group discussions explored:

- 1) the **knowledge** participants had about the characteristics of the program, the destination of recyclables and garbage, the use of funds from the sale of recyclable products and compost;
- 2) **outcome beliefs**<sup>2</sup> about garbage separation;
- 3) **normative beliefs**<sup>3</sup> about separating garbage; and
- 4) current garbage **separation practices**.

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<sup>2</sup> An outcome belief refers to the consequences of a specific behavior once performed. For example, people may believe that separating garbage makes them good neighbors.

<sup>3</sup> A normative belief is a belief that a given referent for an individual wants the individual to perform or not to perform a behavior. For example, mothers may feel that their children want them to separate garbage.

## IV. MAJOR FINDINGS

This section presents the general results extracted from the focus groups and interviews conducted. It summarizes results presented in a larger report written in Spanish.

### **Neighborhood Organizations**

Men hold most of the high ranking positions in neighborhood organizations. However, women have been more involved than men in mobilizing the neighborhood in support of the pilot program. Women have also been more involved in identifying people interested in forming micro-enterprises. In one instance, a female member of a neighborhood organization assumed the responsibility for garbage collection in the area because of a lack of interest among residents to constitute a micro-enterprise. This set an example and created the needed motivation to organize the micro-enterprise. Furthermore, in general, female members of neighborhood organizations seemed to be much better acquainted with local problems and have suggested more potential solutions. Female members of neighborhood organizations have also assumed the responsibility of dealing with institutions to solve neighborhood-related concerns, including garbage. For example, when problems have occurred between EMASEO and the micro-enterprises (e.g., delayed payment of salaries), female members of the neighborhood organizations have been involved in trying to find appropriate institutional responses.

Members of neighborhood organizations, male and female, believe that residents' major motivation for supporting the program is their concern for cleanliness, prevention of disease, and appearance of the neighborhood.

Solid waste disposal is generally a secondary issue for neighborhood organizations. To make solid waste a priority, specialized solid waste committees may have to be sponsored within those organizations.

Neighborhood organizations are not well informed about micro enterprises operations. Better information flow must exist in order for these organizations to support the work of the micro-enterprises. For example, service users are beginning to complain about the regularity of the service, mainly that the garbage does not always get picked up at the expected time. The neighborhood organizations cannot provide explanations to their members, and this generates further frustration among both leaders and members.

## **Micro-Enterprises**

### **a) Managers**

Researchers concluded that good managers are those who: (a) understand the administrative and personnel related problems that exist in the micro-enterprise; (b) maintain good linkages with neighborhood organizations and other micro-enterprises in the pilot program in order to understand the needs of neighborhood residents and to learn how other managers have dealt with similar problems; (c ) inform collectors about the main objectives of the program and train them in how to pass on information to program participants and respond to their concerns; (d) ensure that monthly salaries are paid promptly and keep collectors motivated in order to sustain their performance at a desirable level. It is difficult to make comparisons between male and female micro-enterprise managers using these criteria. The qualitative study included only four micro-enterprises, three of which were managed by women. Thus, the overall assessment of the performance of micro-enterprise managers may be a result of personal rather than gender factors. What is clear, however, is that the female managers have a better image among program participants than the male manager included in this study. Interpersonal contact by program participants with female managers is easier, and female managers are generally perceived as having a stronger commitment to good service.

In general, however, managers are ill informed about the potential uses of organic and recyclable garbage. They were not well informed about the reasons behind suspension of the plastic bag distribution component of the program. Both factors prevent them from providing appropriate and accurate information to the garbage collectors and the program participants. Managers have not actively pursued timely payment of salaries by EMASEO, which has led to low morale among their staffs.

### **b) Collectors**

Job stability among garbage collectors has an influence on the quality of service provided. Garbage collection is a part-time job, conducted only in the mornings. Because men often seek full employment, women and youth have proven to be more stable micro-enterprise employees than men.

This study suggests that the knowledge collectors have about program operation and recycling in general must be improved. Most do not know who funded the garbage bag program and have made incorrect assumptions about the use of profits from the sale of recyclable products. Garbage collectors, men and women alike, are not fully acquainted with the benefits of recycling and tend to misuse terms. Incorrect information about these issues has been transmitted to program participants, generating confusion and frustration.



## Program Participants

### a) Overall Assessment

Separators and non-separators alike practice garbage separation. However, they do not practice it the way that the program would like them to. Program participants often make personal use of organic and recyclable waste. Those who have pets or have friends that have pets report that they keep cooked organic waste to feed the animals. Cardboard and white glass bottles are often kept and sold to scavengers. Newspapers are often reused for cleaning windows. Furthermore, in some households, children bring recyclable waste to school. The schools use the profits to pay for a medical insurance policies for the children.

Project participants also normally have separate garbage containers for unusable bathroom waste and for organic kitchen-related waste. These containers may be protected with plastic bags. When collecting the garbage within the household for disposal, both bathroom and kitchen waste may be combined in a larger bag. Yet, the bathroom waste will continue to be in its own individual bag inside the larger bag. Both types of waste are combined because many families may prefer to dispose of the bathroom waste as often as possible, rather than weekly as required by the program. If the program were able to pick up unusable waste more frequently, families might turn in two separate containers/bags: one with bathroom waste and another with kitchen waste. However, further separation of kitchen waste than what is currently practiced may be required. Most families consider kitchen waste any organic or recyclable waste for which they have no personal use. Further, a common perception exists that glass is dangerous to keep in homes with children. Consequently, this type of garbage is disposed of quickly in such homes and it tends to be mixed with organic waste. The exception may be white glass which, as indicated earlier, may be sold to scavengers.

If garbage is not picked up by collectors because it was not properly separated according to program standards, program participants do one of two things: (1) male members of the family take it to the nearest dumpster or ravine, or (2) they give it to scavengers who pass regularly by the house. The scavengers then separate the products that may have some commercial value from the unusable garbage.

Table 2 summarizes the findings concerning waste disposal practices by gender among those residents interviewed. The symbols in the table should be interpreted as follows:

- The arrows symbol to the left indicate the desired behavior of the program for each product: that residents recycle the product (separate and give to garbage collectors);
- The “R” indicates that residents actually do recycle the product;
- The trash can indicates residents throw the product away;
- The money bag indicates residents sell the product (most likely to scavengers).



## **b) Outcome Beliefs: Male and Female Separators and Non-Separators**

Following is an integrated list of outcome beliefs after analyzing the content of the focus group. The following six major groupings of beliefs emerged from this analysis:

- 1) beliefs associated with the task of garbage separation itself
- 2) beliefs about accumulation and order
- 3) beliefs about hygiene, cleanliness and the associated health implications
- 4) beliefs about what is personally at stake if the practice is performed
- 5) beliefs about the costs involved with the practice
- 6) beliefs about the implications the practice has for the development of the neighborhood and the country

Representative comments for each one of the aforementioned groupings are presented below.

### **1) Examples of task-related beliefs**

A separator woman said:

*Garbage separation takes no time. It is an issue of getting used to it . . . we get trained . . . I don't think time is an issue. It takes me seconds to put things in a bucket . . .*

A non-separator man argued:

*I have no time to classify, to classify garbage . . . for me garbage is garbage and it should just go . . . I have no time to be selecting out what can be used and what cannot be used. Neither do I have time to wait for the collectors to pick up only the garbage that is convenient for them . .*

Another non-separator male said:

*One has too many things to do, there isn't enough time to classify garbage. . .*

A non-separator woman said:

*This is an ugly problem. It is mandatory for us to keep the garbage now. It isn't like before when we had the garbage truck come by. We would throw our bucket into the truck, we would get rid of the garbage, and that was it. We only had to wash our bucket. Not anymore, you have to separate the cardboard, worry about the pieces of fabric, whatever, we have to hold on to things. But I was so upset one day that I just threw everything out.*

## **2) Examples of beliefs about accumulation and order**

A woman commented about garbage separation:

*I like to do that because the house is more organized, that way I am better. But sometimes I don't do it, even though my daughter and my husband help me.*

A non-separator woman said:

*I don't see any advantages (in separating garbage) because I would have to keep a small piece of cardboard I need to get rid. No. I put it in the garbage and I throw it out.*

Another non-separator woman said:

*To recycle you must have a place to accumulate the garbage. I rent a house and have a lot of children. If I kept the garbage they would tear things up and spread them in my garden. So the garden would become a dump. The kids would get sick. There are a lot of disadvantages.*

## **3) Examples of beliefs about hygiene, cleanliness and associated health implications**

A female program participant said:

*Mixing everything with the garbage from food there is always a bad smell . . . even for our own health we must put everything separately . . .*

Concerning the same topic, another female program participant said:

*When you put all the garbage together there are always flies, and to avoid flies what you have to do is put the garbage separately in different bags.*

A male separator said:

*The advantage of separating the garbage is that the house remains clean, flies are avoided, there no bad odor . . .*

Another male separator said:

*I think that garbage separation is a good thing mainly to progress in regards to our health status. In that regard we are behind . . . Before nobody worried about these things, now thanks to these teachings . . . we are improving.*

#### 4) Examples of beliefs about what is personally at stake

A separator man said:

*People that separate garbage are educated people. They have education. As I said, that education begins at home. One leaves that idea, the way one should be. This is the way to set the example for our children, to tell the next generation that things should be done this way.*

Another separator man added:

*We need to be educated. We ourselves should take charge of educating others. If you set an example for the neighborhood . . . if you say daily what you are doing, that you have that nice habit, he will follow and do the same . . . We ourselves need more education to set the example for others.*

A non-separator woman said complaining about garbage separation:

*This is disadvantageous. I have to spend (my own) money to buy bags and turn the garbage in so others make money.*

A non-separator woman said:

*People separate garbage because that is how they make a living . . . they separate things, this and that, everything separated. We throw all of that out and they pick out what they want from the trash cans . . . They are the ones that can make money out of this . . .*

A non-separator woman said:

*They began telling us that they would sell the stuff, but that it would be used for the development of Solanda (a neighborhood). But right now, I see no progress. I wonder where the money is going.*

Another non-separator woman added:

*We see no advantage for us in all of this. I think that the advantages are more for the managers because we do not know what they do, how they do it or why they do it. They push us to do this, since they are already involved in this program. But we would also have to see some benefit for ourselves, if at least they gave the bags for free.*

Yet, a non-separator man commented:

*I don't think that this activity has any advantage for us whatsoever. No advantage for us. But for the company that collects the garbage, there may be an advantage.*

## **5) Examples of beliefs about the cost implications**

A non-separator woman said:

*Before they gave us garbage bags. You would have three bags, right. So, one for the kitchen, another for the bathroom, and a third one for cardboard, for bottles that is. Then, everything was orderly and you knew what days you had to get rid of those things. But right now all of us midwives we put everything in one single bag. . . . If they gave us the bags it would be better, that way we would continue as before, as at the beginning when they taught us how to do this. . . right now it is too difficult . . . we have no money . . .*

## **6) Examples of beliefs about the implications of garbage separation for the development of the neighborhood and the country**

A separator man said:

*I particularly like this because it is a good way for us to begin teaching at home what to do about the environment, and we try to collaborate to the extent that we can . . .*

Another separator man said:

*The garbage that you separate will generate sources (of funds), which are of interest for the community itself.*

A separator woman said:

*I just found out that money that was made (from recycling) was spent on the street signs . . .*

A non-separator woman said complaining about the level of profits that can be made from selling recyclable goods:

*What would we get for some cardboard, and some paper that we may have. Keep that I don't do. I burn it. I burn all the cardboard, all the papers, I also burn the plastic stuff.*

A non-separator man said:

*In Europe garbage is used to make fertilizer, they industrialize and make fertilizer. But here in Ecuador we are still very underdeveloped in that regard. There are some intentions, but that type of industry is just beginning.*

**c) Normative Beliefs**

If garbage separation is practiced, the persons who often approve of the behavior being performed are family members, either spouses or children. Female separators also mention garbage collectors.

Female non-separators also pointed out that their neighbors do not perform the practice, which influences their behavior. Female non-separators argue that the performance of the practice would not be approved by anyone in their (emotional) entourage.

**d) Differences Between Separators and Non-Separators**

The analysis was done in two steps, designed to: first, distinguish separators from non-separators, and second, distinguish men from women. Two major differences between separators and non-separators were found. On the one hand, separators perceive waste separation to be easy and fast, and to facilitate waste handling as wet and dry garbage get deposited in separate containers. Non-separators, on the other hand believe totally the opposite. To them, waste separation is hard, time-consuming and a dirty task. Non-separators have the misperception that separation is practiced after different waste products have been deposited in one container. For them, separation implies rummaging through the garbage to separate recyclables from non-recyclables. This matter is further discussed in the section below on gender comparisons. On the other hand, a striking contrast between separators and non separators is the role attributed to self-image. For separators, waste separation helps them have a positive image among neighbors and family members. For non-separators, on the contrary, waste separation is a demeaning task to be accomplished by scavengers.

**e) Differences Between Men and Women**

The major differences that appeared between men and women are connected to the following issues: who reaps the benefits of recycling, the self-image that waste separation makes possible, and the health implications of separation. Men believe that participating in the recycling program permits others than family members to obtain some revenue from selling recyclables. The implication is those funds should be collected by the members of households where the waste is generated. Women, on the other hand, believe that recycling will generate funds that can be used in neighborhood development projects and support the program on those grounds. Whereas men believe recycling to be a demeaning task, women generally believe that recycling will develop their image as industrious among neighbors and as responsible family members fulfilling their household duties among their relatives.

Men for the most part did not discuss the health implications of waste separation. The opposite is true for women. Women refer to the fact that waste separation eliminates vectors and odors, making their houses look prettier. Women have also argued that garbage separation may keep wet and dry garbage separate. Furthermore, that the fact that not all garbage gets wet may attract

fewer flies and rodents, with positive health implications. Women who dislike the program have also mentioned health implications, particularly with respect to bathroom waste. For these women, the program requires them to keep that type of waste too long in the household, something they believe to be unhealthy. Surprisingly, women also mention topics that are abstractly associated with recycling: provision of raw materials for industry, thereby diminishing the demand for imported goods and contributing to national development. Neither of these two issues was suggested by men.

Women, more often than men, perceive separating waste to be quick, easy, and a better way of handling waste as wet and dry garbage are deposited in separate containers. Many men, in contrast, believe separating waste to be a dirty, difficult task. This perception arises in part due to the widespread misperception among men that waste separation takes place after the waste has been thrown into a container rather than at the time of disposal. For them, recycling implies sticking their hands in the garbage to separate recyclables from non-recyclables.

In general, men appear to be more critical of the program than women. However, women that are critical of the program have expressed their opposition for different reasons than men: the need to spend money on plastic bags to dispose of the waste according to program guidelines, the fact that the program establishes guidelines that are perceived as an intrusion in how one manages the household, and the fact that the program makes them collaborate with neighbors that they dislike.

Tables 3 and 4 present the differences found between separators and non separators by gender. A male symbol indicates that the issue was mainly or exclusively pointed out by men. A female symbol indicates that the issue was mainly or exclusively pointed out by women. When both male and female symbols appear next to a topic it indicates that topic was generally equally mentioned by men and women.







## V. SUMMARY OF MAJOR FINDINGS

The qualitative study indicated that in fact female involvement in program promotion was an important element in getting the pilot program on its feet. Often, men have the positions, especially the more respected positions, on neighborhood committees. However, most of the daily activities of the committees and the institutional relationships between the committees in the municipalities are in the hands of women. No conclusive evidence existed about the role of gender in micro-enterprise management as there were only four micro-enterprises participating in the program. Three of them were managed by women and one was managed by a man. The one managed by a man had been recently organized. Consequently, comparisons between female and male managed micro-enterprises were not possible.

The qualitative study also revealed that there are four major areas of concern into which perceptions about waste separation can be grouped: financial, development related, self-growth and self-image, and time and effort required to separate waste. Each one of these categories are dichotomous.

- Financial concerns relate to who benefits from the sale of recyclable products, the residents or the micro-enterprise. Advocates of residents personally benefitting from the proceeds of the sale of recyclables are worried about the honesty with which the micro-enterprises manage the funds generated. They express their interest in having families who generate the waste keep the profits from the sale of recyclables. On the other hand, advocates of having micro-enterprises be the recipients of the profits argue in favor of the possibility of creating a neighborhood development fund with the proceeds from the sale of recyclables. Non-separators prefer families to keep the profits, and separators are in favor of the funds being generated with the participation of the micro-enterprises. Men seem more favorable towards families keeping the profits made from the sale of recyclables.

Another financial matter mentioned is related to the cost of plastic bags required to dispose of separated waste. This is a concern raised almost solely by women.

- Self-growth and self-image concerns are related to what may be personally gained or lost from separating waste. On the positive side, there are respondents who believed that separating waste allows them to be progressive by learning new habits, to set a good example for their children and show their level of involvement in community development affairs. These views were more often expressed by separators and by female respondents. On the negative side, there are respondents who believe that waste separation is a demeaning task which is more appropriate for scavengers than for residents to perform. Often, these respondents are non-separators and male. Female opponents of the recycling program also believe that the program limits freedom within one's own household and forces residents to collaborate with individuals they dislike.

- Regarding the time and effort involved in separating waste, there are respondents who believe that the required tasks are not time consuming and simple. These views are held by separators. There are respondents, on the other hand, who believe the opposite and who also believe that waste separation is a “dirty” task as they believe separation requires sorting out the different kinds of waste once they have been disposed of in a container. As expected, these views are more commonly held by non-separators.
- In connection to development, there are the supporters of recycling because of the implications it has for neighborhood development or because of industrial and national economic development implications. The former express a concern for neighborhood improvement and are generally separators. The latter believe that waste separation can help generate raw materials for industry, consequently reducing the import of such materials and helping the country develop more independently. These views were more commonly expressed by female non-separators.
- An important conclusion of the qualitative research is that at the household level, the opposition to waste separation may come mainly from men. Getting men to come to focus group discussions was very difficult, and in one case, most of the men who were being invited to attend a focus group meeting for the second time decided to send their male children to represent them. Although female opposition to the waste separation and recycling program was also detected, it was less commonly detected than among men.

## VI. EDUCATIONAL AND SERVICE IMPLICATIONS

A list of recommendations derived from the qualitative research are provided below. These will be useful for developing and launching an educational strategy in support of the recycling program in Quito. OIKOS and the municipal government are potential users of the recommendations.

1. Reinforce the concept of usable waste.
2. Inform program participants about the use of the profits from the sale of recyclable products and the compost. Further, increase their involvement in deciding how the funds are used.
3. The perception among non-separators that solid waste separation is time-consuming, hard, and dirty may be the result of lack of skills. Demonstrations and hands-on experience can help develop needed skills. Stress the point that the separation must take place as the garbage is generated.
4. Illustrate that cleanliness and disease prevention result in lower medical expenses. This may be a persuasive argument to get participants to buy the bags. Further, the program can be consulted to determine the possibility of accepting garbage in boxes or other types of containers (e.g., burlap sacks).
5. Train micro-enterprise managers and collectors about garbage reuse and recycling so they can relay information to users.
6. Train collectors in customer relations.
7. Develop promotional messages stressing the importance garbage separation and recycling may have personally for participants. Determine which personal impact messages are more persuasive through the quantitative study and/or through concept testing.
8. Examine customer preferences about service regularity, particularly for unusable garbage, and adjust service accordingly.